



April 15, 2014

US EPA RECORDS CENTER REGION 5



483784

Sent via Electronic Mail

Ms. Charlene Falco
Illinois Environmental Protection Agency
Bureau of Land, #24
Federal Site Remediation Section
Federal Facilities Unit
1021 North Grand Avenue East
Springfield, IL 62702

Re: MONTHLY PROGRESS REPORT MARCH 2014
INTERIM CONSENT ORDER ACTIVITIES
DEPUE SITE, DEPUE, ILLINOIS

PEOPLE OF THE STATE OF ILLINOIS VS. HORSEHEAD IND., INC., ET AL.
CASE NUMBER 95 CH 18
SITE ID 0110300003 - BUREAU

Dear Ms. Falco:

This progress report is being submitted by ENVIRON International Corporation (ENVIRON), on behalf of the DePue Group. The attached revised report addresses the Interim Consent Order (ICO) activities conducted from March 1 through March 31, 2014 at the DePue Site. The report also indicates planned activities for the next reporting period.

This report complies with the requirements of the ICO, Section XVI, paragraph C, and Attachment 1, paragraph 12.

If you have any questions, please call.

Sincerely,

ENVIRON International Corporation

Scott Hayter
Principal Consultant

Attachment

**MONTHLY PROGRESS REPORT
FOR
MARCH 2014**

**INTERIM CONSENT ORDER ACTIVITIES
DEPUE SITE
DEPUE, ILLINOIS**

Prepared For:

Illinois Environmental Protection Agency
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- 1 copy – Eric Bryant, Village of DePue (electronic copy only)
- 1 copy – Tony Wlodarski, AMEC (electronic copy only)

I OPERABLE UNIT 1: SOUTH DITCH SEDIMENT

- Completed

II. OPERABLE UNIT 2: PHOSPHOGYPSUM STACK**Summary of Work Performed during the Reporting Period:**

- Routine maintenance and monitoring activities continued at the phosphogypsum stack. These activities included pumping, observing, and recording flow and water levels, maintaining storm water diversion systems (catch basins, dams, and discharge piping), measuring flow and collecting samples at the Outfall 002 when applicable, inspecting, monitoring and maintaining groundwater collection and pumping systems, inspecting and maintaining cover integrity and supporting and maintaining the Health and Safety program.
- The center pivot irrigation system was shut down for the winter season on November 12, 2013.
- As of April 1, 2014, 139.0-million gallons of water had been discharged through the treatment wetland. Flow rates and discharge are logged daily, Monday through Friday and reported monthly to the Illinois Environmental Protection Agency (IEPA).
- The treatment wetland sprinkler system was shut down for the winter season on November 22, 2013.
- Two samples were collected from Outfall 002 during March 2014.
- Submitted a data report on March 27, 2014 for Intermediate Sand investigation field activities completed in December 2013.
- Continued preparation of a Phase I/II/III Investigation Report Addendum for the Intermediate Sand.
- Initiated preparation of a groundwater modeling report.

Summary of Work Planned for the Next Reporting Period:

- Continue routine maintenance and monitoring activities within the Phosphogypsum Stack system.
- Continue preparation of the Phase I/II/III Investigation Report Addendum for the Intermediate Sand.
- Continue the preparation of a groundwater modeling report.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- None

Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

III. OPERABLE UNIT 3: PLANT SITE

Summary of Work Performed during the Reporting Period:

- Risk Assessment
 - The DePue Group is preparing a revised Operable Unit 3 (OU3) risk assessment approach document in response to IEPA's February 7, 2014 comments.
- Interim Water Treatment Plant (IWTP) Operations
 - The IWTP treated 1,593,538 gallons of water during March 2014. The influent and effluent data are included in Attachment 2:
 - Approximately 11,570 pounds of zinc were removed.
 - Approximately 590 pounds of manganese were removed.
 - Approximately 620 pounds of copper were removed.
 - The following activities were completed at the IWTP:
 - Routine operation and maintenance.
- Site Operations
 - The most recent OU3 site fence inspections were completed on March 25 and 28, 2014. There were no issues noted, all fencing was found secure and "No Trespassing" signs were intact. No repairs were necessary.

Summary of Work Planned for the Next Reporting Period:

- Risk Assessment
 - The DePue Group will continue to work with IEPA to develop the approach for completing the OU3 screening risk assessment.
- Interim Water Treatment Plant
 - The DePue Group will continue routine operation and maintenance at the IWTP.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- None

Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

IV. OPERABLE UNIT 4: OFF-SITE SOIL

Summary of Work Performed during the Reporting Period:

- Off-Site Soil Design Study
 - The DePue Group is preparing the OU4 Pilot Study Soil Sampling Report.

Summary of Work Planned for the Next Reporting Period:

- Off-Site Soil Design Study
 - The DePue Group will continue preparing a report documenting the results of the Pilot Study.
 - The DePue Group will schedule revisiting eight properties to evaluate for the potential presence of bare areas in April.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- None

Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None.

V. OPERABLE UNIT 5: DEPUE LAKE AND FLOODPLAIN**Summary of Work Performed during the Reporting Period:**

- DePue Lake Remedial Investigation (RI)
 - The DePue Group awaits a response to the Sediment Preliminary Remediation Goal (PRG) Technical Memorandum submitted on December 23, 2013.
 - The DePue Group is waiting for confirmation from IEPA on the approach for finalizing the OU5 Human Health Risk Assessment (HHRA).

Summary of Work Planned for the Next Reporting Period:

- DePue Lake RI Report
 - The DePue Group will continue to work with IEPA toward finalizing the OU5 risk assessments.

Problems Encountered/Resolved:

- None

Revisions to Scopes of Work and Schedules:

- Additional requirements necessary to address OU1 (South Ditch Sediments), if any, will be completed as part of the scope of work for OU5 (DePue Lake and Floodplain).

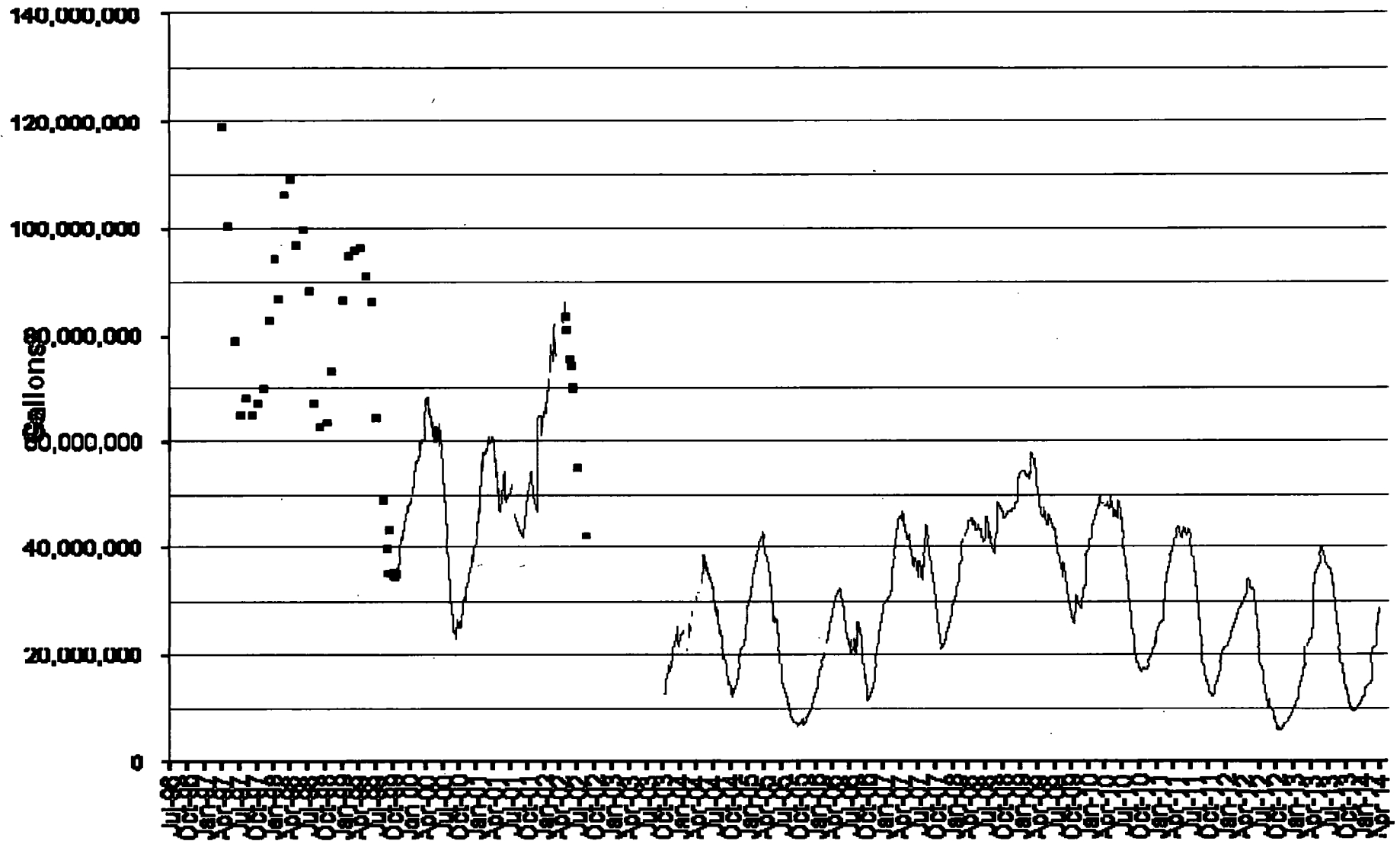
Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

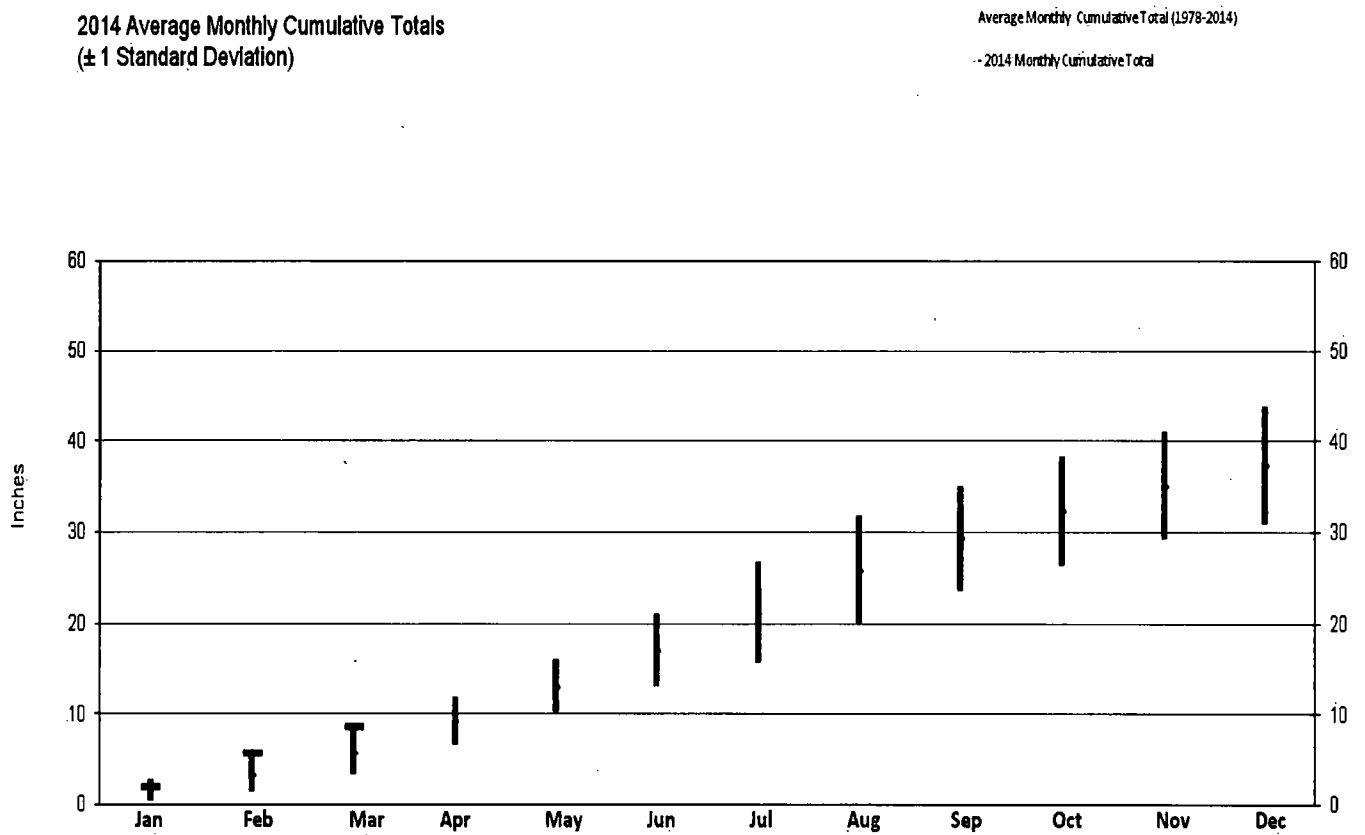
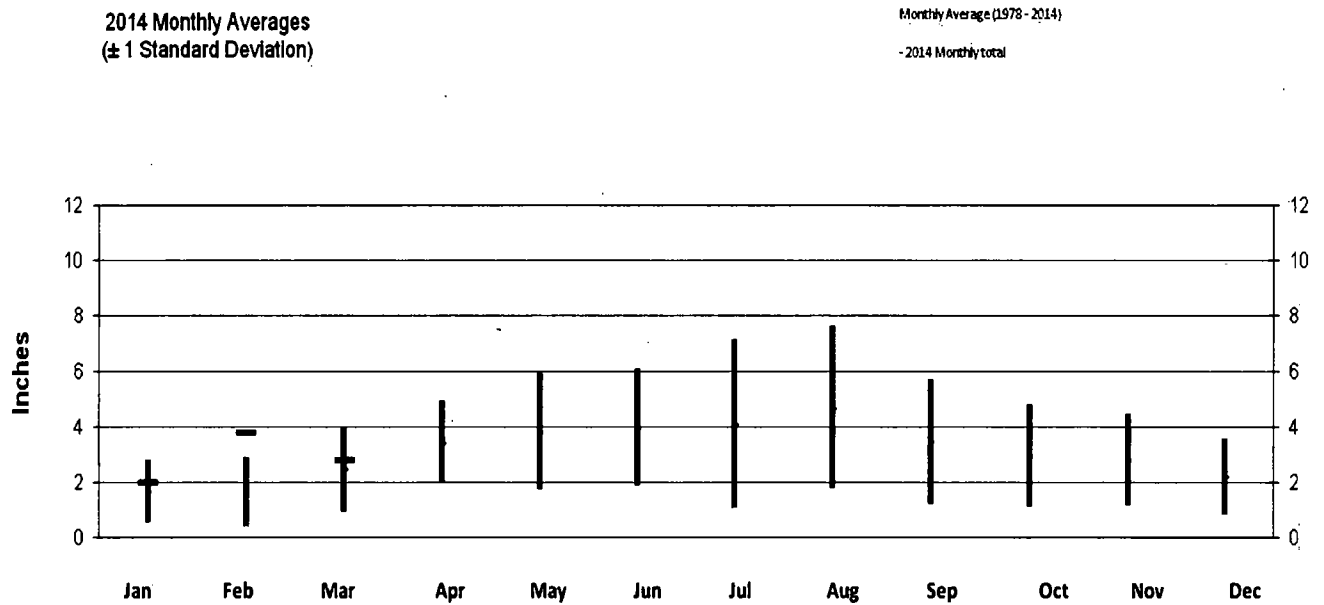
Attachment 1

Gypstack

Surface-Water Volumes within the Phosphogypsum Stack System



1978 Through 2014 DePue Site Precipitation



Analytical Results for Samples Collected at the 002 Outfall (mg/L)

| Sample Collection Date | pH (S.U.) | Total Dissolved Solids (mg/L) | Total Phosphorus (mg/L) | Fluoride (mg/L) | Sulfate (mg/L) | Ammonia- Nitrogen (mg/L) | Unionized Ammonia (mg/L) |
|--|--------------|--|-------------------------------|--------------------|-------------------|--------------------------------|--------------------------------|
| 1/13/14 | 6.18 | 295 | 0.683 | 0.430 | 94.2 | <0.0600 | <0.00100 |
| 3/12/14 | 7.65 | 226 | 0.154 | 0.365 | 54.8 | 0.708 | 0.00319 |
| 3/24/14 | 7.62 | 346 | 1.03 | 0.431 | 102 | 0.243 | 0.00158 |
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| Former Permit IL 0032182 Limits | 6.5 – 9 | 1,000 | Report | 1.4 | 500 | 15 | 0.04 |

Analytical Results for Samples Collected Quarterly at the Duck Pond, Lower Swale, Upper Swale, Clear Water Pond (mg/L)

| Sample Collection Date | pH (S.U.) | Total Dissolved Solids (mg/L) | Total Phosphorus (mg/L) | Fluoride (mg/L) | Sulfate (mg/L) | Ammonia-Nitrogen (mg/L) |
|------------------------|----------------------------------|-------------------------------|-------------------------|-----------------|----------------|-------------------------|
| Duck Pond | | | | | | |
| 2/27/14 | No sample collected, pond frozen | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Lower Swale | | | | | | |
| 2/27/14 | 7.28 | 3100 | 63.4 | 3.51 | 1960 | 40.8 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Upper Swale | | | | | | |
| 2/27/14 | 7.30 | 3730 | 64.3 | 4.14 | 2350 | 72.0 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Clear Water Pond | | | | | | |
| 2/27/14 | No sample collected, pond frozen | | | | | |
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| | | | | | | |

Attachment 2

Summary of Sampling Results DePue Interim Water Treatment Plant

Interim Consent Order Report
March, 2014
Summary Of Analytical Results
DePue Interim Water Treatment Plant

Influent Data (mg/L)

| Date | TSS | Cadmium | Copper | Iron | Manganese | Nickel | Lead | Zinc | pH- std units | Lift Station Flow (gpm) |
|--------------------|------------|----------------|---------------|-------------|------------------|---------------|-------------|-------------|----------------------|------------------------------------|
| 01/07/14 | 50 | 1.8 | 50 | 2.0 | 53 | 1.1 | <1.0 | 1,000 | 5.88 | 10 |
| 02/04/14 | 31 | 1.4 | 51 | 4.1 | 46 | <1.0 | <1.0 | 930 | 5.98 | 10 |
| 03/04/14 | 140 | 1.2 | 47 | 1.6 | 45 | 1.0 | <1.0 | 870 | 6.01 | 54 |
| YTD Average | 74 | 1.5 | 49 | 2.6 | 48 | 1.0 | 1.0 | 933 | 5.96 | 25 |

Notes:

1. Values preceded by "<" were not detected greater than the laboratory method detection limit shown.

Interim Consent Order Report
March, 2014
Summary Of Analytical Results
DePue Interim Water Treatment Plant

Effluent Data (mg/L)

| Date | TSS | Cadmium | Copper | Iron | Manganese | Nickel | Lead | Zinc | pH - std units |
|----------|------|---------|--------|-------|-----------|--------|-------|------|----------------|
| 01/07/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.28 | 7.44 |
| 01/14/14 | 5.6 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.28 | 7.00 |
| 01/21/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.18 | 7.04 |
| 01/28/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.29 | 7.00 |
| 02/04/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.39 | 7.20 |
| 02/11/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.28 | 6.96 |
| 02/18/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.17 | 7.00 |
| 02/25/14 | <4.0 | <0.02 | <0.10 | <0.10 | 0.12 | <0.10 | <0.10 | 0.23 | 7.04 |
| 03/04/14 | <4.0 | <0.02 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.22 | 7.22 |
| 03/11/14 | <4.0 | <0.02 | <0.10 | <0.10 | 0.19 | <0.10 | <0.10 | 0.57 | 7.04 |
| 03/18/14 | <4.0 | <0.02 | <0.10 | <0.10 | 0.94 | <0.10 | <0.10 | 1.10 | 7.00 |
| 03/25/14 | <4.0 | <0.02 | <0.10 | <0.10 | 0.11 | <0.10 | <0.10 | 0.29 | 7.00 |

| | | | | | | | | | |
|----------------|-----|------|------|------|------|------|------|------|------|
| YTD Avg | 4.1 | 0.02 | 0.10 | 0.10 | 0.18 | 0.10 | 0.10 | 0.36 | 7.08 |
| Mar Avg | 4.0 | 0.02 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.55 | 7.07 |
| Mar Max | 4.0 | 0.02 | 0.1 | 0.1 | 0.9 | 0.1 | 0.1 | 1.10 | 7.22 |

DISCHARGE LIMITS (mg/l)

| | TSS | Cadmium | Copper | Iron | Manganese | Nickel | Lead | Zinc | pH-std units |
|--------------------|-----|---------|--------|------|-----------|--------|------|------|--------------|
| Daily Max | 30 | 0.3 | 1 | 4 | 2 | 2 | 0.4 | 2 | 6-9 |
| Monthly Avg | 15 | 0.15 | 0.5 | 2 | 1 | 1 | 0.2 | 1 | 6-9 |

Notes:

1. Values preceded by "<" were not detected greater than the laboratory method detection limit shown.